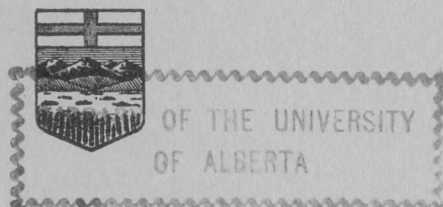


16. FEB. 1955



FIFTH ANNUAL REPORT

OF THE

Department of Mines and Minerals

OF THE

PROVINCE OF ALBERTA

FOR THE

Fiscal Year Ended March 31st
1954

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON
PRINTED BY A. SHNITKA, QUEEN'S PRINTER
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To the Honourable J. J. Bowlen,
Lieutenant Governor of the Province of Alberta.

SIR:

I have the honour to submit the Report of the Department of Mines and Minerals for the fiscal year ended March 31st, 1954.

I have the honour to be, Sir,

Your obedient servant,

ERNEST C. MANNING,
Minister of Mines and Minerals.

Edmonton, November 1, 1954.

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CHIEF OFFICERS,
DEPARTMENT OF MINES AND MINERALS

March 31st, 1954

Hon. Ernest C. Manning	Minister
H. H. Somerville	Deputy Minister
N. A. Macleod	Solicitor
C. W. Jackman	Statistician
W. E. Shillabeer	Administrative Accountant and Personnel Officer

MINERAL RIGHTS DIVISION

J. W. Patrick	Director
R. A. Seaton	Assistant Director
D. F. Morrison	Supervisor of Leases and Mining Recorder, Edmonton District
A. Z. Choquette	Mining Recorder, Calgary District
A. E. Kynnersley	Supervisor of Revenue

MINES DIVISION

J. A. Dutton	Director
J. Horne	Assistant Director

MINERAL TAXATION DIVISION

E. F. Gilker	Chief Assessor
W. McGeachie	Assessor, Northern District
V. L. Scott	Assessor, Southern District

TECHNICAL DIVISION

H. B. Grove	Superintendent
J. M. Novak	Chief Draughtsman

RIGHT OF ENTRY ARBITRATION ACT
BOARD OF ARBITRATORS

N. G. Meldrum	Chairman
P. J. Skrypnyk	Member
T. E. Stickney	Member
A. E. Fahlman	Secretary

FIFTH ANNUAL REPORT

of the

Department of Mines and Minerals

HONOURABLE ERNEST C. MANNING,
Minister of Mines and Minerals,
Edmonton, Alberta.

Sir:

I have the honour to present the Annual Report of the Department of Mines and Minerals for the fiscal year ending March 31st, 1954.

The year under review is one which saw Alberta rise to the top rank among the provinces as a mineral producer with crude oil becoming Canada's leading source of mineral revenue. A reflection of this prosperity is seen in the surplus on income account which climbed to \$97,422,298.01 from \$57,828,793.12 in the previous fiscal year. The principal increase was in Crown Reserve sales which showed a net revenue of \$49,590,009.60. This increase was directly attributable to new successes in oil and natural gas exploration during the year.

The most significant oil discovery was made in the Pembina Valley where a well was completed as a commercial producer in June, 1953. Source of the oil is the Cardium Sandstone, a formation of Upper Cretaceous age which underlies the foothills and adjacent plains of western Alberta at depths of 5,000 feet or more. This was the first time that a well had been successfully completed in the Cardium, although oil indications in the formation had been noted in Turner Valley and elsewhere along the foothills. Subsequent drilling has indicated that the Pembina field may have the largest recoverable oil reserve yet discovered in Canada. Oil has been found in the Cardium under an area of more than ten townships in extent. In addition to the Cardium, oil has been found in commercial quantities in four other formations in the Pembina area.

A discovery south of Pigeon Lake between Homeglen and Rimbey with an exceptionally thick natural gas cap over a thin oil pool was found in the Leduc formation. The gas is exceptionally rich in liquid fractions and the oil is one of the best refinery crudes found in appreciable quantities in the province to date. The field is not yet delineated but it appears that it will constitute one of the largest gas reservoirs yet discovered in this province.

At Sturgeon Lake continued drilling in the vicinity of the original discoveries has indicated that at least two separate oil pools have been found with estimated recoverable reserves totalling over 100 million barrels.

Although a number of other discoveries were made and extensive oil field development drilling was completed, oil and gas exploration and development work was severely restricted by climatic conditions that prevailed throughout the year. The spring break-up in 1953 came abnormally early and prevented completion of many winter exploration programmes. The wet summer and succeeding mild winter have held geophysical operations and drilling to a minimum.

During the year the Transmountain pipeline of 714 miles from Edmonton to Vancouver was completed and started deliveries of oil to refineries in the Vancouver area. Reduced tanker rates on oil from Asiatic and other sources prevented the development of the anticipated off-shore markets.

At the other side of our market area the Interprovincial Pipe Line from Edmonton was extended from its former terminal at Superior, Wisconsin, to Sarnia, Ontario providing Edmonton with a direct pipeline of 1,752 miles to the major marketing area of southern Ontario.

Sulphur production in 1953 was 18,298 short tons. It was obtained from natural gas processing plants at Jumping Pound and Turner Valley. The principal market was the west coast pulp and paper industries. An export market is being developed and over 4,000 tons went to Ceylon and Brazil.

Salt for commercial purposes totalling 25,182 tons all came from Elk Point in 1953. At Duvernay, west of Elk Point, production of salt for a chemical plant was commenced late in 1953. This plant uses about ten tons of salt to produce thirteen tons of caustic soda and eleven tons of chlorine per day by an electrolytic process. Both these chemicals are used extensively by other industries.

The natural advantages of oil and natural gas as sources of energy have continued to restrict the demand for coal. The displacement of coal by oil as a railway locomotive fuel and a succession of two mild winters have been principally responsible for coal production being reduced to 5,917,423 tons in 1953, a decrease of 1,277,049 tons from the 1952 total.

Legislation

The 1954 Session of the Legislative Assembly made several changes in the legislation administered by the Department. The amendments affect The Mineral Taxation Act, 1947, The Mines and Minerals Act, The Oil and Gas Resources Conservation Act, 1950, and The Right of Entry Arbitration Act, 1952. All such amendments contain provisions for unit operation of mineral resources. A unit operation is one in which a number of tracts are integrated for the development or production of a mineral underlying the tracts or the implementing of a programme for the conservation of the mineral. Thus, The Mineral Taxation Act is amended to permit the allocation of production from lands subject to an agreement for unit operation to recover petroleum or natural gas among the tracts within the area subject to the unit operation. Another amendment to The Mineral Taxation Act, 1947, provides for an appeal where the wrong person is named as the owner of a tract on the assessment roll.

The enactment of the Bill amending The Mines and Minerals Act added the Part IX, dealing with unit operations, to enable the Lieutenant Governor in Council to authorize the Minister to enter into a unit operation agreement that would supersede some of the other provisions of the Act. This permits the inclusion of Crown mineral rights in an agreement for unit operation of a mineral. Where a unit operation agreement is made, the Minister may require that the leaseholds or other tracts be split so that the area comprised in them and the unit operation area are as nearly as possible conterminous. Other amendments to The Mines and Mineral Act made minor changes for clarification, substituted new provisions regarding royalties in the light of the decision of the Judicial Committee of the Privy Council affecting coal royalties, authorized the acquiring of leases under the Act by chartered banks and by companies incorporated by special Provincial statutes, reviewed the provisions regarding quartz mining claims, and authorized the Minister to reselect Crown reserves in townships where leases have been cancelled.

The Oil and Gas Resources Conservation Act, 1952, was amended to clarify the responsibility of the designated operator where the Board had approved of an agreement for unit operations. In addition the provisions of the Act dealing with deposits paid by a person applying for well licenses and the use of such deposits were replaced by new provisions for the same purposes.

Amendments to The Right of Entry Arbitration Act, 1952, provided for the acquisition of right of entry for operations necessary for conservation purposes in an oil and gas field, and added provisions dealing with the purpose and use of security monies paid on an application for an interim right of entry.

The Oil and Gas Fields Public Service Utilities Act and The Unit Operation of Mineral Resources Act were repealed, the former because it was no longer of use and the latter because its provisions are now included in the new Part IX of The Mines and Minerals Act.

Regulations

Under the authority of The Mines and Minerals Act regulations were made by O.C. 1004/53 and 1005/53 prescribing the royalty to be paid by holders of quartz and placer claims. These orders consolidated and replaced former royalty regulations and prescribed a royalty of two and one-half per cent on the sales of products of claims.

Under the provisions of The Coal Mines Regulation Act, O.C. 1178/53 established regulations governing the use of diesel locomotives in coal mines. Inspection districts for the purposes of The Coal Mines Regulation Act were delineated by O.C. 1092/53. The Quarries Regulations established pursuant to The Quarries Regulation Act, were amended by O.C. 1217/53 by substituting new provisions affecting applicants for Blaster's Certificates.

In May, 1953, Mr. J. R. Pow was engaged as the Chief Geologist for this Department and the Petroleum and Natural Gas Conservation Board. Mr. Pow makes his headquarters in the Petroleum and Natural Gas Conservation Board office in Calgary.

A separate report is issued yearly by the Mines Division and may be obtained by contacting the Mines Division of this Department in the Provincial Building, Edmonton.

Detailed reports of the other divisions follow.

All of which is respectfully submitted.

H. H. SOMERVILLE,
Deputy Minister.

November 1, 1954.

Mineral Rights Administration

Report of Director of Mineral Rights

J. W. PATRICK

This fifth year of administration by the Department of Mines and Minerals was again a very active year.

Footage drilled for petroleum and natural gas during 1953 was 6,422,889 feet, a decrease of 208,640 feet from 1952. The production of crude oil increased to 76,816,383 barrels exceeding the production of 1952 by 17,900,660 barrels. There were 10 new fields discovered and the average daily rate of production possible increased by 24,000 barrels to 317,000 barrels but because of inadequate markets the average daily oil produced was only 245,600 barrels, an increase of 36 per cent over the previous year. The number of producing oil wells increased from 3,659 to 4,504.

Production of coal in Alberta in 1953 decreased by 1,277,049 tons. This decline in coal production is again chiefly attributable to the loss of markets by the increase in the use of alternate fuels.

The production and value of Alberta's chief minerals for 1953 were crude oil, 76,816,383 barrels valued at \$193,118,494.00; coal, 5,917,423 tons, valued at \$32,158,435.00; natural gas, *79,612,191 Mcf., valued at \$3,980,609.55; and salt, 26,420 tons, valued at \$928,382.00.

Mineral rights, solid, liquid and gaseous, the property of the Crown in the right of the Province, are not sold, but are disposed of by lease, reservation, license, permit or other agreement for limited periods of time. Revenue is obtained from fees, rentals, bonuses, royalties, sales of leases and other miscellaneous charges. During the fiscal year these sources provided a revenue of \$97,153,435.50 being an increase of \$39,557,769.04 from the previous year. Sales of leases and reservations in Crown reserves were held on four occasions in the fiscal year and the revenue from this source increased thirty-one million dollars.

The Province is divided into two mining districts: the Edmonton district comprises that portion of the Province lying to the north of the north boundary of Township 42 and the balance of the Province lying to the south is contained in the Calgary district.

During the year 6,926 applications for mineral rights were filed at the offices of the Mining Recorders in Edmonton and Calgary and at the office of the Department in Edmonton. Numerous inquiries were made as to the availability of mineral rights, mostly for petroleum and natural gas leases and reservations by personal application and by correspondence.

During the year under review 5,601 leases and 127 reservations were issued and a tabulation follows showing the number and acreage of the various leases.

*Includes only marketed and consumed gas.

MINERAL RIGHTS LEASES

Type of Lease	Active at April 1, 1953	Issued	Reinstated	Divided	Cancelled	Renewed	Active at March 31, 1954
Petroleum and Natural Gas	20,785	5,502	57	646	3,405	2	23,583
Natural Gas .....	...	35	...	...	...	...	35
Coal	616	47	...	2	65	27	573
Road Allowance Coal	129	8	...	...	5	5	127
Quarrying	21	8	...	...	5	...	26
Quarrying Transferred from Lands and Forests in July .....	...	...	2	...	...	...	...
Salt	2	...	...	...	...	...	2
Bituminous Sands	1	...	...	...	...	...	1
Miscellaneous	2	1	...	...	...	...	3
TOTAL	21,556	5,601	59	648	3,480	34	24,350

ACREAGE CONTAINED IN ABOVE LEASES

Type of Lease	Active at April 1, 1953	Issued	Reinstated	Cancelled	Renewed	Active at March 31, 1954
Petroleum and Natural Gas	15,469,471	8,698,262	12,884	5,148,220	560	19,031,837
Natural Gas .....	...	287,868	...	...	...	287,868
Coal	174,549	18,632	...	25,161	14,360	153,660
Quarrying	2,523	1,027	47	1,024	...	2,573
Salt	1,204	...	...	...	...	1,204
Bituminous Sands	3,898	...	...	...	...	3,898
Miscellaneous	3,522	92	...	...	...	3,614
TOTAL	15,655,167	9,005,881	12,931	5,174,405	14,920	19,484,654

STATEMENT OF BUSINESS TRANSACTED, 1953-54

PETROLEUM AND NATURAL GAS

	Number	Acres
Leases issued	5,502	8,698,262
Leases cancelled and relinquished	3,405	5,148,220
Leases reinstated	57	12,884
Prospecting reservations granted	127	5,665,880
Prospecting reservations terminated	347	17,312,812
Prospecting reservations active at March 31, 1954	411	23,892,929
Natural Gas Licenses issued	14	541,346
Natural Gas Licenses cancelled and relinquished	28	1,127,817
Natural Gas Licenses active at March 31, 1954	26	1,144,146
Crown Reserve Natural Gas Licenses issued	7	89,832
Crown Reserve Natural Gas Licenses cancelled	2	47,040
Crown Reserve Natural Gas Licenses active at March 31, 1954	12	199,811
Natural Gas Leases issued	35	287,868
Fees, rentals and bonuses collected		\$24,536,943.50
Royalties collected		18,565,126.36
Crown reserve sales		53,236,117.06
TOTAL		\$96,338,186.92

COAL

	Number	Acres
Leases issued	47	18,632
Leases cancelled and relinquished	65	25,161
Road Allowance Leases—		
Leases issued	8	.....
Leases cancelled and relinquished	5	.....
Fees and rentals collected	\$148,753.11	
Royalties Collected	286,569.25	
TOTAL	\$435,322.36	

QUARRYING

	Number	Acres
Quarrying Leases issued	8	1,027
Quarrying Leases transferred from Lands and Forests	2	.....
Quarrying Leases cancelled and relinquished	5	977
Fees and rentals collected	\$ 325.01	
Royalties collected	38,798.28	
TOTAL	\$39,123.29	

MISCELLANEOUS

	Number	
Bituminous Sands Permits issued	1	
Bituminous Sands Permits cancelled	2	
Bituminous Sands Permits renewed	12	
Permits to collect Bitumen renewed	1	
Quartz—		
Claims recorded	1,430	
Certificates of Work issued	91	
Certificates of Partnership issued	7	
Powers of Attorney filed	103	
Placer—		
Claims recorded	15	
Renewals issued	3	
Powers of Attorney filed	10	
Iron Prospecting Permits issued	1	
Sulphur Permits issued .....	.....
Sulphur Permits renewed .....	.....
Sulphur Permits cancelled	1	
Special mineral leases issued	1	
Geophysical Licenses issued	240	
Permits to Operate Geophysical Equipment Issued	19	
Permits to Operate Geophysical Equipment Renewed	85	
Fees, rentals, royalties and other miscellaneous charges		\$340,802.93

PETROLEUM AND NATURAL GAS

Leases.—During the year 5,502 petroleum and natural gas leases were granted covering 8,698,262 acres and at the close of the fiscal year a total of 23,583 leases were in existence comprising an area of 19,031,837 acres.

The revenue received from fees amounted to \$49,840.00. The revenue from lease rentals was \$15,043,513.70 and the revenue from bonuses accepted by the Mining Recorders at sales of petroleum and natural gas leases by tender amounted to \$466,365.72.

Disposal of Crown Reserves.—Petroleum and natural gas rights comprised in Crown reserves may be disposed of by order of the Lieutenant Governor in Council and during the year 277 leases, 16 reservations and seven Crown reserve natural gas licenses were purchased and particulars of these Crown reserve purchases are included in this report.

CROWN RESERVES PURCHASED IN LEDUC AREA

Description	Offer Accepted From:	Cash Purchase Price
S.E. ¼ 11-49-27-4	The British American Oil Company Limited	\$ 52,000.00
S.E. ¼ 12-49-27-4	The British American Oil Company Limited	15,000.00
		<hr/>
		\$ 67,000.00

CROWN RESERVES PURCHASED IN GOLDEN SPIKE AREA

Description	Offer Accepted From:	Cash Purchase Price
N.E. ¼ 34-51-27-4	Anglo-Canadian Oil Company Limited	\$ 16,583.00
		<hr/>
		\$ 16,583.00

CROWN RESERVES PURCHASED IN STETTLER AREA

Description	Offer Accepted From:	Cash Purchase Price
N.E. ¼ 34-37-20-4	Charter Oil Company Limited	\$ 4,404.80
N.W. ¼ 34-37-20-4	Charter Oil Company Limited	12,404.80
		<hr/>
		\$ 16,809.60

CROWN RESERVES PURCHASED IN ARMENA-CAMROSE AREA

Description	Offer Accepted From:	Cash Purchase Price
S.E. ¼ 24-48-21-4	Hudson's Bay Oil and Gas Company Limited	\$ 526,201.60
N.E. ¼ 28-48-21-4	The Bay Petroleum Corporation	52,566.99
S.E. ¼ 4-48-20-4	Canadian Bishop Oil Ltd.	42,142.14
N.W. ¼ 4-49-21-4	Anglo-Canadian Oil Company Limited	172,831.00
		<hr/>
		\$ 793,741.73

CROWN RESERVES PURCHASED IN NEW NORWAY AREA

Description	Offer Accepted From:	Cash Purchase Price
N.W. ¼ 6-45-21-4	Scurry Oils Limited	\$ 54,000.00
		<hr/>
		\$ 54,000.00

CROWN RESERVES PURCHASED IN ACHESON AREA

Description	Offer Accepted From:	Cash Purchase Price
N.W. ¼ 6-53-25-4	The California Standard Company	\$ 21,777.00
S.E. ¼ 12-53-26-4	Placid Oil Company	8,800.00
		<hr/>
		\$ 30,577.00

CROWN RESERVES PURCHASED IN CAMPBELL AREA

Description	Offer Accepted From:	Cash Purchase Price
N.W. ¼ 34-54-25-4	Maygill Petroleum Company Limited	\$ 16,000.00
S.W. ¼ 34-54-25-4	Maygill Petroleum Company Limited	16,001.00
		<hr/>
		\$ 32,001.00

CROWN RESERVES PURCHASED IN CESSFORD AREA

Description	Offer Accepted From:	Cash Purchase Price
S.½ 36-23-13-4	Shell Oil Company	\$ 30,000.00
		<hr/>
		\$ 30,000.00

CROWN RESERVES PURCHASED IN DRUMHELLER AREA

Description	Offer Accepted From:	Cash Purchase Price
N.E.¼ 17-29-19-4	Great Plains Development Company of Canada Ltd., Western Leaseholds Ltd. and El Centro Drilling Limited	\$ 8,284.80
S.W.¼ 21-29-19-4	Great Plains Development Company of Canada Ltd., Western Leaseholds Ltd. and El Centro Drilling Limited	8,284.80
		<hr/>
		\$ 16,569.60

CROWN RESERVES PURCHASED IN ERSKINE AREA

Description	Offer Accepted From:	Cash Purchase Price
S.E.¼ 18-39-20-4	Oilwell Operators Limited	\$ 107,501.27
S.W.¼ 18-39-20-4	Oilwell Operators Limited	161,251.27
S.W.¼ 12-39-21-4	Oilwell Operators Limited	207,501.27
N.W.¼ 12-39-21-4	West Canadian Petroleum Ltd. and Dome Exploration (Western) Limited	80,052.20
		<hr/>
		\$ 556,306.01

CROWN RESERVES PURCHASED IN FENN AREA

Description	Offer Accepted From:	Cash Purchase Price
N.W.¼ 14-36-20-4	Imperial Oil Limited	\$ 320,321.00
N.E.¼ 26-36-20-4	Shell Oil Company	1,000,333.00
S.E.¼ 22-36-20-4	Canadian Gulf Oil Company	255,000.00
N.E.¼ 22-36-20-4	Shell Oil Company	675,040.00
N.W.¼ 22-36-20-4	Shell Oil Company	50,000.00
N.E.¼ 34-36-20-4	Shell Oil Company	106,000.00
S.E.¼ 34-36-20-4	Shell Oil Company	761,000.00
		<hr/>
		\$3,167,694.00

CROWN RESERVES PURCHASED IN JOSEPH LAKE AREA

Description	Offer Accepted From:	Cash Purchase Price
N.E.¼ 30-49-21-4	Canadian Fina Oil Limited and Triad Oil Co. Ltd.	\$ 301,222.00
N.W.¼ 30-49-21-4	Crown Trust Company	323,583.00
S.E.¼ 30-49-21-4	Canadian Decalta Gas and Oils Limited and Alberta Pacific Consolidated Oil Limited (Non-Personal Liability)	66,155.00
		<hr/>
		\$ 690,960.00

CROWN RESERVES PURCHASED IN NORTH BIG VALLEY AREA

Description	Offer Accepted From:	Cash Purchase Price
S.W. $\frac{1}{4}$ 36-35-20-4	Shell Oil Company	\$ 701,111.00
S.E. $\frac{1}{4}$ 2-36-20-4	Shell Oil Company	650,586.00
N.E. $\frac{1}{4}$ 11-36-20-4	Shell Oil Company	802,161.74
S.E. $\frac{1}{4}$ 11-36-20-4	Shell Oil Company	884,137.41
N.E. $\frac{1}{4}$ 2-36-20-4	Canadian Gulf Oil Company	1,099,000.00
N.E. $\frac{1}{4}$ 22-35-20-4	Shell Oil Company	410,000.00
S.E. $\frac{1}{4}$ 22-35-20-4	Shell Oil Company	210,000.00
		<hr/> \$4,756,996.15

CROWN RESERVES PURCHASED IN PEMBINA AREA

Description	Offer Accepted From:	Cash Purchase Price
N.E. $\frac{1}{4}$ 10-48- 8-5	Luscar Coals Limited	\$ 525,010.00
S.E. $\frac{1}{4}$ 10-48- 8-5	Trans-Canada Petroleum Ltd. (N.P.L.) and New Concord Development Corporation Limited	505,829.00
S.E. $\frac{1}{4}$ 22-48- 8-5	Canadian Gulf Oil Company	470,070.00
		<hr/> \$1,500,909.00

CROWN RESERVES PURCHASED IN WAINWRIGHT AREA

Description	Offer Accepted From:	Cash Purchase Price
N. $\frac{1}{2}$ 22-45- 6-4	Wainwright Refineries Limited	\$ 7,787.75
		<hr/> \$ 7,787.75

CROWN RESERVES PURCHASED IN WEST DRUMHELLER AREA

Description	Offer Accepted From:	Cash Purchase Price
S.E. $\frac{1}{4}$ 1-30-21-4	Anglo American Exploration Ltd.	\$ 357,500.00
S.W. $\frac{1}{4}$ 1-30-21-4	New Superior Oils of Canada Limited	401,013.03
N.W. $\frac{1}{4}$ 35-29-21-4	Hudson's Bay Oil and Gas Company Limited	424,411.20
S.E. $\frac{1}{4}$ 2-30-21-4	Hudson's Bay Oil and Gas Company Limited	629,770.82
S.W. $\frac{1}{4}$ 2-30-21-4	Hudson's Bay Oil and Gas Company Limited	377,267.22
		<hr/> \$2,189,962.27

CROWN RESERVES PURCHASED IN WOODBEND AREA

Description	Offer Accepted From:	Cash Purchase Price
S.E. $\frac{1}{4}$ 3-51-26-4	Anglo-Canadian Oil Company Limited	\$ 25,529.00
		<hr/> \$ 25,529.00

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

Description	Offer Accepted From:	Cash Purchase Price
Sec. 17-43- 1-4	Prado Oil and Gas Company Limited	\$ 6,360.00
E. $\frac{1}{2}$ 22-43- 1-4	Prado Oil and Gas Company Limited	36,000.36
S.W. $\frac{1}{4}$ 13-63- 5-4	New Continental Oil Company of Canada Limited	976.93
S.E. $\frac{1}{4}$ 14-63- 5-4	New Continental Oil Company of Canada Limited	967.60

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description		Offer Accepted From:	Cash Purchase Price
N.½	35-34- 9-4	Redwater Utilities Holdings Oil and Gas Limited	\$ 40,766.00
W.½	2-35- 9-4	Redwater Utilities Holdings Oil and Gas Limited	76,766.00
N.E.¼	16-43-13-4	Union Oil Company of California	9,175.00
S.W.¼	16-43-13-4	Union Oil Company of California	7,275.00
S.E.¼	6- 1-16-4	Ponder Oils Limited	6,308.28
S.W.¼	6- 1-16-4	Ponder Oils Limited	6,308.28
S.½	22-44-18-4	Sun Oil Company	24,675.20
N.W.¼	18-39-20-4	Federated Petroleum Ltd.	142,509.99
S.W.¼	19-39-20-4	Texaco Exploration Company	230,000.00
N.E.¼	2-45-20-4	Texaco Exploration Company	7,500.00
W.½	12-45-20-4	Texaco Exploration Company	15,000.00
S.E.¼	10-47-20-4	Shell Oil Company	110,000.00
E.½	20-44-21-4	Herman G. Kopald	50,700.00
S.½	2-45-21-4	Hudson's Bay Oil and Gas Company Limited	33,088.00
S.½	4-11-22-4	Okalta Oils Limited	3,712.50
E.½	5-11-22-4	Okalta Oils Limited	3,667.50
N.W.¼	9-30-22-4	Kroy Oils Limited	19,101.00
S.½	17-30-22-4	Kroy Oils Limited	25,453.00
N.½	18-38-23-4	Stanolind Oil and Gas Company	103,668.00
S.W.¼	18-38-23-4	Stanolind Oil and Gas Company	51,834.00
N.½	36-51-23-4	Hudson's Bay Oil and Gas Company Limited	8,486.40
E.½	2-52-23-4	Hudson's Bay Oil and Gas Company Limited	8,486.40
N.W.¼	18-37-24-4	The British American Oil Company Limited	65,544.00
N.E.¼	18-47-24-4	Mollusca Oils Limited	1,765.00
S.W.¼	30-47-24-4	Mollusca Oils Limited	2,000.00
W.½	30-64-24-4	Great Plains Development Company of Canada Ltd. and Sun Oil Company	11,254.47
W.½	31-64-24-4	Great Plains Development Company of Canada Ltd. and Sun Oil Company	11,254.47
N.W.¼	29-38-25-4	Union Oil Company of California	9,395.00
S.W.¼	30-38-25-4	Bailey Selburn Oil and Gas Ltd.	36,481.96
N.½	24-45-27-4	Texaco Exploration Company	217,000.00
S.½	12-47-27-4	Texaco Exploration Company	167,000.00
N.W.¼	34-48-27-4	The British American Oil Company Limited	204,175.35
N.½	3-14-28-4	Robert M. Durrant	13,120.25
S.½	14-14-28-4	W. Harry Gray	14,666.87
S.E.¼	32-43- 1-5	Calvan Consolidated Oil and Gas Company Limited	327,787.00
S.W.¼	32-43- 1-5	Shell Oil Company	110,111.00
W.½	22-61- 1-5	Imperial Oil Limited	8,025.07
S.½	27-61- 1-5	Imperial Oil Limited	8,025.07
Sec.	28-21- 3-5	Federated Petroleum Ltd.	6,777.99

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
N. $\frac{1}{2}$, S.E. $\frac{1}{4}$ & L.S.'s 4, 5 of Sec. 29-21- 3-5	Federated Petroleums Ltd.	\$ 5,930.99
N.E. $\frac{1}{4}$, S.W. $\frac{1}{4}$ & L.S.'s 2, 7, 11, 13, 14, of Sec. 32-21- 3-5	Federated Petroleums Ltd.	5,506.99
S.W. $\frac{1}{4}$ 4-22- 3-5	Federated Petroleums Ltd.	1,694.99
E. $\frac{1}{2}$ & L.S.'s 11,13,14 of Sec. 18-22- 3-5	Federated Petroleums Ltd.	22,449.99
S. $\frac{1}{2}$ and N.W. $\frac{1}{4}$ 30-22- 3-5	Federated Petroleums Ltd.	24,489.99
N.E. $\frac{1}{4}$ 36-22- 4-5	Federated Petroleums Ltd.	1,704.99
E. $\frac{1}{2}$ 10-73-18-5	Muskeg Oil Company	12,016.00
E. $\frac{1}{2}$ 15-73-18-5	Muskeg Oil Company	8,944.00
S. $\frac{1}{2}$ 21-73-18-5	Muskeg Oil Company	4,688.00
W. $\frac{1}{2}$ 5-76- 4-6	Sun Oil Company	2,275.20
S. $\frac{1}{2}$ 7-76- 4-6	Canadian Fina Oil Limited	2,010.00
E. $\frac{1}{2}$ 10-76- 4-6	Sun Oil Company	2,275.20
N. $\frac{1}{2}$ 21-76- 4-6	Canadian Fina Oil Limited	2,510.00
S. $\frac{1}{2}$ 26-76- 4-6	Canadian Fina Oil Limited	3,210.00
N. $\frac{1}{2}$ 30-76- 4-6	Canadian Fina Oil Limited	3,210.00
S. $\frac{1}{2}$ 32-76- 4-6	Pacific Petroleums Ltd.	5,120.00
S. $\frac{1}{2}$ 35-76- 4-6	Canadian Fina Oil Limited	5,010.00
W. $\frac{1}{2}$ 4-77- 4-6	Pacific Petroleums Ltd.	9,920.00
E. $\frac{1}{2}$ 14-77- 4-6	Canadian Fina Oil Limited	8,010.00
S. $\frac{1}{2}$ 27-77- 4-6	Canadian Fina Oil Limited	8,010.00
Sec. 36-42- 2-4	Marigold Oils Limited, Hy-Charger Petroleums Limited (N.P.L.), Henderson Oil Holdings Ltd. and Credit Canadien Petroleums and Investments Company Limited	3,385.00
N.E. $\frac{1}{4}$ 23-30- 9-4	The California Standard Company	2,111.00
N.W. $\frac{1}{4}$ 23-30- 9-4	The California Standard Company	2,111.00
W. $\frac{1}{2}$ 24-22-13-4	Hudson's Bay Oil and Gas Company Limited	3,612.80
N. $\frac{1}{2}$ 27-22-13-4	Hudson's Bay Oil and Gas Company Limited	3,612.80
E. $\frac{1}{2}$ 35-22-13-4	Hudson's Bay Oil and Gas Company Limited	6,951.01
N. $\frac{1}{2}$ 11-33-13-4	Sinclair Canada Oil Company	8,170.00
S. $\frac{1}{2}$ 14-33-13-4	Sinclair Canada Oil Company	8,170.00
W. $\frac{1}{2}$ 34-43-14-4	Union Oil Company of California	8,335.00
S. $\frac{1}{2}$ 4-44-14-4	Union Oil Company of California	8,335.00
W. $\frac{1}{2}$ 28-46-17-4	Union Oil Company of California	38,159.00
N.E. $\frac{1}{4}$ 29-46-17-4	Union Oil Company of California	17,079.00
S.E. $\frac{1}{4}$ 32-46-17-4	Union Oil Company of California	17,079.00
S.E. $\frac{1}{4}$ 36-17-19-4	Calvan Consolidated Oil and Gas Company Limited	1,844.80
N.E. $\frac{1}{4}$ 27-57-19-4	Calvan Consolidated Oil and Gas Company Limited	3,371.20
S.E. $\frac{1}{4}$ 24-39-21-4	Oilwell Operators Limited	170,001.27
S.W. $\frac{1}{4}$ 24-39-21-4	Oilwell Operators Limited	137,501.27

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
N.W. $\frac{1}{4}$ & L.S.'s 10, & 15-6-11-22-4	Okalta Oils Limited	\$ 3,012.50
E. $\frac{1}{2}$ 36-48-22-4	Imperial Oil Limited	16,333.33
N. $\frac{1}{2}$ 7-51-22-4	Imperial Oil Limited	24,101.00
E. $\frac{1}{2}$ 8-62-22-4	Great Plains Development Company of Canada Ltd.	10,427.22
E. $\frac{1}{2}$ 17-62-22-4	Great Plains Development Company of Canada Ltd.	10,427.22
N.W. $\frac{1}{4}$ 17-62-22-4	Great Plains Development Company of Canada Ltd.	5,213.61
N.W. $\frac{1}{4}$ 18-39-23-4	Canada-Cities Service Petroleum Corporation	68,083.20
S.E. $\frac{1}{4}$ 18-39-23-4	Canada-Cities Service Petroleum Corporation	44,091.20
E. $\frac{1}{2}$ 24-51-23-4	Imperial Oil Limited	16,233.00
N.E. $\frac{1}{4}$ 7-29-24-4	Socony-Vacuum Exploration Company	16,059.20
S.W. $\frac{1}{4}$ 17-29-24-4	Socony-Vacuum Exploration Company	20,059.20
S.E. $\frac{1}{4}$ 18-29-24-4	Stanolind Oil and Gas Company	21,160.00
W. $\frac{1}{2}$ 18-29-24-4	Stanolind Oil and Gas Company	32,720.00
S. $\frac{1}{2}$ 12-39-24-4	Canada-Cities Service Petroleum Corporation	136,166.40
S.E. $\frac{1}{4}$ 6-53-25-4	The California Standard Company	27,511.00
S. $\frac{1}{2}$ 22-67-25-4	The California Standard Company	11,017.00
S. $\frac{1}{2}$ 23-67-25-4	The California Standard Company	11,017.00
Sec. 30-35-26-4	Sun Oil Company	48,044.87
Sec. 16-20-27-4	Shell Oil Company	16,107.11
Sec. 30-20-27-4	Shell Oil Company	9,611.07
S.W. $\frac{1}{4}$ 34-20-27-4	Shell Oil Company	3,211.07
E. $\frac{1}{2}$ 4-32- 1-5	Shell Oil Company	32,111.07
W. $\frac{1}{2}$ 22-32- 1-5	Shell Oil Company	8,011.07
N.E. $\frac{1}{4}$ 26-44- 1-5	Canadian Gulf Oil Company	161,000.00
E. $\frac{1}{2}$ 32-49- 1-5	Great Plains Development Company of Canada Ltd. and Triad Oil Co. Ltd.	55,897.61
S. $\frac{1}{2}$ 4-50- 1-5	Great Plains Development Company of Canada Ltd. and Triad Oil Co. Ltd.	55,897.61
N. $\frac{1}{2}$ 5-60- 1-5	Sinclair Canada Oil Company	8,670.00
E. $\frac{1}{2}$ 6-60- 1-5	Sinclair Canada Oil Company	8,670.00
W. $\frac{1}{2}$ 17-60- 1-5	Sinclair Canada Oil Company	8,670.00
W. $\frac{1}{2}$ 20-60- 1-5	Sinclair Canada Oil Company	8,670.00
W. $\frac{1}{2}$ 6-74-20-5	Royalite Oil Company Limited and The British American Oil Company Limited	8,620.00
W. $\frac{1}{2}$ 7-74-20-5	Royalite Oil Company Limited and The British American Oil Company Limited	6,660.00
S. $\frac{1}{2}$ 14-85-21-5	Hudson's Bay Oil and Gas Company Limited, Union Oil Company of California and Royalite Oil Company Limited	3,798.40
S. $\frac{1}{2}$ 15-85-21-5	Hudson's Bay Oil and Gas Company Limited, Union Oil Company of California and Royalite Oil Company Limited	5,078.40
S. $\frac{1}{2}$ 16-85-21-5	Hudson's Bay Oil and Gas Company Limited, Union Oil Company of California and Royalite Oil Company Limited	3,774.66
Sec. 28-44- 1-4	Bailey Selburn Oil and Gas Ltd.	3,667.66

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
S.W. $\frac{1}{4}$ 1-26-13-4	Amurex Oil Development Company	\$ 8,500.80
S.E. $\frac{1}{4}$ 2-26-13-4	Amurex Oil Development Company	13,297.60
W. $\frac{1}{2}$ 2-26-13-4	Amurex Oil Development Company	12,252.28
Sec. 16-47-19-4	Imperial Oil Limited	48,801.00
W. $\frac{1}{2}$ 18-41-20-4	Sun Oil Company	35,542.86
N.E. $\frac{1}{4}$ 19-41-20-4	Sun Oil Company	42,135.00
N.E. $\frac{1}{4}$ 28-10-21-4	Bailey Selburn Oil and Gas Ltd.	3,467.66
S.E. $\frac{1}{4}$ 33-10-21-4	Bailey Selburn Oil and Gas Ltd.	2,667.66
N. $\frac{1}{2}$ 2-38-21-4	The British American Oil Company Limited	30,000.00
S. $\frac{1}{2}$ 2-63-21-4	Anglo-Canadian Oil Company Limited	2,991.00
S. $\frac{1}{2}$ 3-63-21-4	Anglo-Canadian Oil Company Limited	2,973.00
W. $\frac{1}{2}$ 16-40-22-4	Imperial Oil Limited	71,141.00
N.W. $\frac{1}{4}$ 18-40-22-4	Imperial Oil Limited	35,777.00
S.W. $\frac{1}{4}$ 2-51-22-4	Imperial Oil Limited	21,554.00
S. $\frac{1}{2}$ 3-51-22-4	Imperial Oil Limited	42,959.00
Sec. 10-60-23-4	Hudson's Bay Oil and Gas Company Limited	7,206.40
S. $\frac{1}{2}$ 15-60-23-4	Hudson's Bay Oil and Gas Company Limited	3,603.20
N.E. $\frac{1}{4}$ 18-37-24-4	The British American Oil Company Limited	40,000.00
S.W. $\frac{1}{4}$ 20-37-24-4	The British American Oil Company Limited	40,300.00
N.W. $\frac{1}{4}$ 11-48-24-4	Texaco Exploration Company	33,500.00
N.E. $\frac{1}{4}$ 12-48-24-4	Texaco Exploration Company	33,500.00
N.E. $\frac{1}{4}$ 14-48-24-4	Texaco Exploration Company	33,500.00
E. $\frac{1}{2}$ 21-60-24-4	Union Oil Company of California	11,117.00
E. $\frac{1}{2}$ 22-60-24-4	Union Oil Company of California	18,340.00
S.W. $\frac{1}{4}$ 27-60-24-4	Union Oil Company of California	8,080.00
S.E. $\frac{1}{4}$ 17-61-24-4	Imperial Oil Limited	33,003.00
S.W. $\frac{1}{4}$ 21-61-24-4	Imperial Oil Limited	20,082.00
N.W. $\frac{1}{4}$ 30-38-25-4	Great Plains Development Company of Canada Ltd.	152,677.78
S.E. $\frac{1}{4}$ 2-42-25-4	Texaco Exploration Company	52,600.00
Sec. 23-62-25-4	Sinclair Canada Oil Company	39,292.08
N. $\frac{1}{2}$ 18-32-26-4	Hudson's Bay Oil and Gas Company Limited	12,883.20
E. $\frac{1}{2}$ 10-48-26-4	Texaco Exploration Company	53,500.00
E. $\frac{1}{2}$ 14-32-27-4	Hudson's Bay Oil and Gas Company Limited	6,803.20
S. $\frac{1}{2}$ 2-45-27-4	Shell Oil Company	100,160.00
S.W. $\frac{1}{4}$ 16-22- 1-5	Hudson's Bay Oil and Gas Company Limited	1,961.60
S.W. $\frac{1}{4}$ 6-43- 1-5	Crown Trust Company	261,322.27
N.W. $\frac{1}{4}$ 6-43- 1-5	Shell Oil Company	250,160.00
N.E. $\frac{1}{4}$ 26-42- 2-5	Crown Trust Company	241,322.12
S.W. $\frac{1}{4}$ 36-42- 2-5	Imperial Oil Limited	321,111.00
S.E. $\frac{1}{4}$ 36-42- 2-5	Imperial Oil Limited	321,111.00
N.E. $\frac{1}{4}$ 2-45- 2-5	Canada-Cities Service Petroleum Corporation	16,176.00
W. $\frac{1}{2}$ 11-45- 2-5	Canada-Cities Service Petroleum Corporation	48,806.40

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
W.½ 14-45- 2-5	Canada-Cities Service Petroleum Corporation	\$ 81,072.00
S.½ 18-38- 3-5	Texaco Exploration Company	151,600.00
E.½ 19-38- 3-5	Texaco Exploration Company	102,700.00
Sec. 12-33- 4-5	Shell Oil Company	10,320.00
S.½ 3-49- 6-5	Imperial Oil Limited	16,155.00
N.½ 4-49- 6-5	Imperial Oil Limited	16,155.00
W.½ 36-35-10-4	Calvan Consolidated Oil and Gas Company Limited	21,043.00
W.½ 2-36-10-4	Calvan Consolidated Oil and Gas Company Limited	10,507.00
E.½ 15-36-10-4	Calvan Consolidated Oil and Gas Company Limited	5,133.00
N.E.¼ 1-12-14-4	Union Oil Company of California	4,560.00
S.½ 2-12-14-4	Union Oil Company of California	9,120.00
E.½ 10- 1-17-4	Texaco Exploration Company	5,500.00
Sec. 11- 1-17-4	Texaco Exploration Company	11,000.00
N.½ 5-17-18-4	Scurry Oils Limited	3,382.00
S.W.¼ 5-17-18-4	Scurry Oils Limited	1,691.00
S.E.¼ 7-17-18-4	Scurry Oils Limited	1,691.00
Sec. 27-33-19-4	Los Nietos Company	16,550.00
S.W.¼ 20-45-19-4	Amerada Petroleum Corporation	8,641.00
S.½ 30-45-19-4	Amerada Petroleum Corporation	17,281.00
N.E.¼ 18-19-20-4	Lindale Petroleums Limited	1,815.00
S.W.¼ 18-19-20-4	Lindale Petroleums Limited	1,815.00
N.E.¼ 24-45-20-4	Dome Exploration (Western) Limited and West Canadian Petroleums Ltd.	10,112.00
N.½ 12-19-21-4	Lindale Petroleums Limited	3,465.00
S.E.¼ 24-19-21-4	Lindale Petroleums Limited	1,720.00
N.½ 18-39-21-4	Calvan Consolidated Oil and Gas Company Limited	63,064.00
Sec. 32-39-21-4	Federated Petroleums Ltd.	32,000.00
W.½ 14-35-22-4	Hudson's Bay Oil and Gas Company Limited	19,699.20
S.½ 22-35-22-4	Hudson's Bay Oil and Gas Company Limited	19,699.20
W.½ 4-36-22-4	Hudson's Bay Oil and Gas Company Limited	19,699.20
E.½ 24-36-22-4	Central Leduc Oils Limited	6,921.60
N.E.¼ 4-37-22-4	Royalite Oil Company Limited	8,130.00
S.W.¼ 4-37-22-4	Royalite Oil Company Limited	8,130.00
W.½ 12-44-22-4	Canadian Fina Oil Limited, Husky Oil and Refining Ltd. and Triad Oil Co. Ltd.	35,009.00
E.½ 9-60-23-4	Hudson's Bay Oil and Gas Company Limited	6,942.32
S.½ 2-35-24-4	Central Leduc Oils Limited	6,221.04
N.E.¼ 27-60-24-4	Fortune Oils Limited	5,400.00
S.½ 1-12-14-4	Union Oil Company of California	9,120.00
N.E.¼ 34-60-24-4	Union Oil Company of California	1,780.00
S.W.¼ 34-60-24-4	Union Oil Company of California	4,448.00

CROWN RESERVES PURCHASED ELSEWHERE IN ALBERTA

(Continued)

Description	Offer Accepted From:	Cash Purchase Price
N.W. $\frac{1}{4}$ 18-38-25-4	Imperial Oil Limited	\$ 75,996.00
N.E. $\frac{1}{4}$ 29-38-25-4	Imperial Oil Limited	46,333.00
N.E. $\frac{1}{4}$ 30-38-25-4	Imperial Oil Limited	71,555.00
W. $\frac{1}{2}$ 4-35-26-4	Seaboard Oil Company of Delaware	64,320.00
E. $\frac{1}{2}$ 10-35-26-4	Seaboard Oil Company of Delaware	31,680.00
N.E. $\frac{1}{4}$ 24-38-26-4	Imperial Oil Limited	98,444.00
N.E. $\frac{1}{4}$ 36-38-27-4	Imperial Oil Limited	38,336.00
S.W. $\frac{1}{4}$ 36-38-27-4	Imperial Oil Limited	38,336.00
N.E. $\frac{1}{4}$ 16-39-27-4	Imperial Oil Limited	38,336.00
S.W. $\frac{1}{4}$ 16-39-27-4	Imperial Oil Limited	38,336.00
N.E. $\frac{1}{4}$ 18-39-27-4	Imperial Oil Limited	38,336.00
S.W. $\frac{1}{4}$ 18-39-27-4	Imperial Oil Limited	38,336.00
W. $\frac{1}{2}$ 22-52-27-4	Sharples Oil (Canada) Ltd.	22,864.75
Sec. 11-21-29-4	Shell Oil Company	16,641.00
N. $\frac{1}{2}$ 30-31- 1-5	Shell Oil Company	3,320.00
Sec. 10-10- 2-5	Sun Oil Company	6,464.00
E. $\frac{1}{2}$ 36-31- 2-5	Shell Oil Company	3,320.00
Sec. 12-32- 2-5	Shell Oil Company	12,850.00
N. $\frac{1}{2}$ 32-33- 3-5	Shell Oil Company	8,071.00
W. $\frac{1}{2}$ 18-43- 5-5	Imperial Oil Limited	25,577.00
S. $\frac{1}{2}$ 4-45- 5-5	Imperial Oil Limited	20,113.00
W. $\frac{1}{2}$ 7-45- 5-5	Imperial Oil Limited	20,113.00
E. $\frac{1}{2}$ 12-43- 6-5	Imperial Oil Limited	25,577.00
N. $\frac{1}{2}$ 24-53-10-5	Texaco Exploration Company	10,500.00
S. $\frac{1}{2}$ 25-53-10-5	Texaco Exploration Company	10,500.00
N.W. $\frac{1}{4}$ 31-80-16-5	Shell Oil Company	4,800.00
N.E. $\frac{1}{4}$ 36-80-17-5	Shell Oil Company	4,800.00
N. $\frac{1}{2}$ 10-70-22-5	Great Plains Development Company of Canada Ltd.	15,001.00
W. $\frac{1}{2}$ 16-70-22-5	Great Plains Development Company of Canada Ltd.	40,214.40
Sec. 9-80-12-6	Shell Oil Company	7,500.00
		<hr/>
		\$7,923,826.93

PETROLEUM AND NATURAL GAS RESERVATIONS PURCHASED IN PROVINCIAL RESERVES

Description:	Offer Accepted from:	Cash Purchase Price
All Township 61, Range 7 W. 5th Meridian; All Township 62, Range 7, W. 5th Meridian; All Township 61, Range 8, W. 5th Meridian; All Township 62, Range 8, W. 5th Meridian —92,160 acres, located in Virginia Hills Provincial Reserve.	Socony Canadian Oil Company	\$ 194,457.60
All Township 63, Range 7, W. 5th Meridian; All Township 64, Range 7, W. 5th Meridian; All unsurveyed Township 63, Range 8, W. 5th Meridian; All unsurveyed Township 64, Range 8, W. 5th Meridian—92,160 acres, located in Virginia Hills Provincial Reserve.	Imperial Oil Limited	322,560.00

**PETROLEUM AND NATURAL GAS RESERVATIONS PURCHASED
IN PROVINCIAL RESERVES—(Continued)**

Description:	Offer Accepted from:	Cash Purchase Price
All Township 61, Range 9, W. 5th Meridian; All Township 62, Range 9, W. 5th Meridian; All Township 61, Range 10, W. 5th Meridian; All Township 62, Range 10, W. 5th Meridian —92,160 acres, located in Virginia Hills Provincial Reserve.	Imperial Oil Limited	\$ 322,560.00
All Township 63, Range 9, W. 5th Meridian; All of partially surveyed Township 64, Range 9, W. 5th Meridian; All unsurveyed Town- ship 63, Range 10, W. 5th Meridian; All of unsurveyed Township 64, Range 10, W. 5th. Meridian—92,160 acres, located in Virginia Hills Provincial Reserve.	Imperial Oil Limited	322,560.00
All of partially surveyed Township 61, Range 11, W. 5th Meridian; All of unsurveyed Township 62, Range 11, W. 5th Meridian; All of unsurveyed Township 61, Range 12, W. 5th Meridian; all of unsurveyed Township 62, Range 12, W. 5th Meridian—92,160 acres, located in Virginia Hills Provincial Reserve.	Socony Canadian Oil Company	197,222.40
All of unsurveyed Township 63, Range 11, W. 5th Meridian; All of unsurveyed Township 64, Range 11, W. 5th Meridian; All of un- surveyed Township 63, Range 12, W. 5th Meridian; All of unsurveyed Township 64, Range 12, W. 5th Meridian—92,160 acres, located in Virginia Hills Provincial Reserve.	Imperial Oil Limited	115,200.00
All Township 61, Range 18, W. 5th Meridian; All Township 61, Range 19, W. 5th Meridian; All Township 61, Range 20, W. 5th Meridian; All Township 62, Range 20, W. 5th Meridian —92,160 acres, located in Kaybob Provincial Reserve.	Hudson's Bay Oil and Gas Company Limited	553,881.60
All Township 62, Range 18, W. 5th Meridian; All Township 62, Range 19, W. 5th Meridian; All Township 63, Range 19, W. 5th Meridian; All Township 63, Range 20, W. 5th Meridian —92,160 acres, located in Kaybob Provincial Reserve.	California Peace River Company	573,881.60
All Township 63, Range 18, W. 5th Meridian; All Township 64, Range 18, W. 5th Meridian; All Township 64, Range 19, W. 5th Meridian; All Township 64, Range 20, W. 5th Meridian —92,160 acres, located in Kaybob Provincial Reserve.	California Kootenay Company	573,881.61
All Township 88, Range 7, W. 6th Meridian; All Township 89, Range 7, W. 6th Meridian; the Southerly 1/6 of Township 90, Range 7, W. 6th Meridian; All Township 88, Range 8, W. 6th Meridian; All Township 89, Range 8, W. 6th Meridian; the Southerly 1/6 of Town- ship 90, Range 8, W. 6th Meridian—99,840 acres, located in Clear Hills Provincial Reserve.	The British American Oil Company Limited	303,513.60
All Township 88, Range 9, W. 6th Meridian; All Township 89, Range 9, W. 6th Meridian; the Southerly 1/6 of Township 90, Range 9, W. 6th Meridian; All Township 88, Range 10, W. 6th Meridian; All Township 89, Range 10, W. 6th Meridian, the Southerly 1/6 of Town- ship 90, Range 8, W. 6th Meridian—99,840 acres, located in Clear Hills Provincial Reserve.	The British American Oil Company Limited	151,756.80

PETROLEUM AND NATURAL GAS RESERVATIONS PURCHASED
IN PROVINCIAL RESERVES—(Continued)

Description:	Offer Accepted from:	Cash Purchase Price
The North half of Township 88, Range 11, W. 6th Meridian; All Township 89, Range 11, W. 6th Meridian; the Southerly 1/6 of Township 90, Range 11, W. 6th Meridian; the North half of Township 88, Range 12, W. 6th Meridian; All Township 89, Range 12, W. 6th Meridian; the Southerly 1/6 of Township 90, Range 12, W. 6th Meridian; the North half of Frac. Township 88, Range 13, W. 6th Meridian; All Frac. Township 89, Range 13, W. 6th Meridian; the Southerly 1/6 of Frac. Township 90, Range 13, W. 6th Meridian—97,452 acres, located in Clear Hills Provincial Reserve.	Shell Rockies Exploration Limited	\$ 67,433.00
All Township 37, Range 5, W. 5th Meridian, excepting Sections 1, 7, 8, 9, 17 and 19; All Township 38, Range 5, W. 5th Meridian, excepting Section 8 and S.½ and N.W.¼ of Section 26; All Township 37, Range 6, W. 5th Meridian, excepting Sections 1, 8, 13, 25 and 35, the S.½ and N.W.¼ of Section 26 and those portions of Section 3 and 33 not covered by Clearwater River and islands as shown upon a plan of survey dated December 17, 1906; All Township 38, Range 6, W. 5th Meridian, excepting Section 8 and S.½ and N.W.¼ of Section 26 and those portions of Sections 5 and 7 not covered by Clearwater River as shown upon a plan of survey dated December 29, 1906—79,983 acres, located in Alhambra Provincial Reserve.	Crown Trust Company	813,500.00
All Township 41, Range 5, W. 5th Meridian, excepting Section 8 and S.½ and N.W.¼ of Section 26; All Township 42, Range 5, W. 5th Meridian excepting Section 8 and S.½ and N.W.¼ of Section 26; All Township 41, Range 6, W. 5th Meridian, excepting Section 8 and S.½ and N.W.¼ of Section 26; All Township 42, Range 6, W. 5th Meridian, excepting Section 8 and S.½ and N.W.¼ of Section 26—87,680 acres, located in Alhambra Provincial Reserve.	Indian Refining Company	2,100,125.00
All Township 49, Range 10, W. 5th Meridian; All Township 50, Range 10, W. 5th Meridian; All Township 49, Range 11, W. 5th Meridian; All Township 50, Range 11, W. 5th Meridian; —92,160 acres, located in Cynthia Provincial Reserve.	Texaco Exploration Company	13,000,125.00
All Township 51, Range 10, W. 5th Meridian; All Township 52, Range 10, W. 5th Meridian; All Township 51, Range 11, W. 5th Meridian; All Township 52, Range 11, W. 5th Meridian; —92,160 acres, located in Cynthia Provincial Reserve.	Imperial Oil Limited	11,087,533.00
		<hr/> \$30,700,191.21

CROWN RESERVE NATURAL GAS LICENSES PURCHASED

Description:	Offer Accepted from:	Cash Purchase Price
Sections 19, 30, 31, S.½ of Section 20, S.½ of Section 21, S.½ of Section 22 in Township 80, Range 6, W. 6th Meridian; Section 1, E.½ of Section 12 in Township 81, Range 7, W. 6th Meridian—3,840 acres.	Hudson's Bay Oil and Gas Company Limited	\$ 40,588.80

CROWN RESERVE NATURAL GAS LICENSES PURCHASED

(Continued)

Description:	Offer Accepted from:	Cash Purchase Price
Sections 7, 8, 31, E.½ of Section 20, S.½ of Section 29, N.½ of Section 32 in Township 80, Range 12, W. 6th Meridian; Sections 10, 12, 34, 35, 36, S.½ of Section 9, S.E.¼ and L.S.'s 9, 10, 16, S.½ of L.S. 15 of Section 23, N.½ and L.S.'s 1, 7, 8, N.½ of L.S. 2 of Section 26, those portions of W.½ of Section 8, Sections 17, 20, 32 lying within the Province of Alberta in Township 80, Range 13, W. 6th Meridian—8,552 acres.	Pacific Petroleum Ltd.	\$ 17,111.00
The N.½ and the S.W.¼ of Section 18 and Section 19 in Township 81, Range 24, W. 5th Meridian; The W.½ of Section 1, Section 2, the S.E.¼ of Section 3, the N.½'s of Sections 9 and 10, Section 11, the N.½ and the S.W.¼ of Section 12, Section 13, the S.½'s of Sections 14 and 15 and all of Sections 16, 17, 21, 24 and 28 in Township 81, Range 25, W. 5th Meridian—8,480 acres.	Hudson's Bay Oil and Gas Company Limited	30,782.40
Sections 14, 17, 18, 19, 20, 23, 24, 27, 28, 29, 30, and 35, in Township 35, Range 5, W. 4th Meridian—7,680 acres.	Pacific Petroleum Ltd.	23,884.80
Section 1, the S.E. and the N.W.¼'s of Section 6, S. E. and the N.W.¼'s of Section 7, the N.½'s of Sections 9, 10 and 11, Section 12, the S.E.¼'s of Sections 13, 14 and 15, Sections 16 and 17, the S. E. and the N.W.¼'s of Section 18, the S.E. and the N.W.¼'s of Section 19, the S.E. ¼ of Section 20, the S.E. and the N.W.¼'s of Section 30 and the S.E. and the N.W.¼'s of Section 31 in Township 37, Range 5, W. 4th Meridian; Section 2, the N.½ and the S. E. ¼ of Section 3, the N.½ and the S.W.¼ of Section 4, Section 6, the S.½ and the N.W. ¼ of Section 10, the S.½'s of Sections 11 and 12, the W.½ of Section 15, Sections 16 and 21, the N.½ and the S.W.¼ of Section 22, the N.½'s of Sections 23, and 24, Section 25, the N.E.¼ of Section 26 and Section 28, in Township 36, Range 6, W. 4th Meridian; Sections 2 and 4 in Township 36, Range 7, W. 4th Meridian—14,880 acres.	Calvan Consolidated Oil and Gas Limited	153,551.55
Section 7, the S.½ of Section 16, the S.½ and the N.E. ¼ of Section 17, the S.E.¼ of Section 18, the E.½ of Section 20, the S.½ of Section 21, the E.½ of Section 29, and all of Sections 31 and 32 in Township 36, Range 7, W. 4th Meridian; Sections 4 and 5, the S.½ of Section 10, Sections 11 and 14, the N.½ of Section 15 and S.½'s of Sections 16 and 17 in Township 37, Range 7, W. 4th Meridian—7,680 acres.	Pacific Petroleum Ltd.	23,884.80
Sections 21, 25, 26, 27, 34 and 35, in Township 42, Range 17, W. 5th Meridian; Sections 2, 6, 8, 9, 10, 16, 17, 20 and 30 in Township 43, Range 17, W. 5th Meridian; Section 36 in Township 42, Range 18, W. 5th Meridian; Section 1, the N.E.¼ of Section 11, the S.E.¼ of Section 14 and Sections 15, 20, 21, 22, 25, 26, 30, 31, 35 and 36 in Township 43, Range 18, W. 5th Meridian; Sections 2, 6, 8, 9, 10, 16, 17, 20 and 30 in Township 44, Range 18, W. 5th Meridian; Sections 1, 15, 16, 20, 21, 22, 25, 26, 30, 31, 35, and 36 in Township 44, Range 19, W. 5th Meridian; Sections 2, 6, 8, 9, 10, 17 and 30 in Township 45, Range 19, W. 5th Meridian; Sections 1, 15, 22, 25 and 26 in Township 45, Range 20, W. 5th Meridian—38,720 acres.	Triad Oil Co. Ltd.	5,157.78
		\$ 294,961.13

Reservations.—During the fiscal year 127 reservations were issued covering an area of 5,665,880 acres and at the close of the year 411 reservations were active containing an area of 23,892,929 acres.

The revenue from reservation fees amounted to \$34,750.00, for extending reservations amounted to \$4,443,904.70 and the revenue from bonuses accepted by the Director of Mineral Rights at sales of petroleum and natural gas reservations by tender amounted to \$4,397,029.58.

Three Orders in Council were passed amending the Petroleum and Natural Gas Reservation Regulations, the first of which was Order in Council numbered O.C. 759/53 dated May 29, 1953 which provided that the holders of adjoining reservations comprising lands in one township could by agreement and with the consent of the Minister select not more than 50% of the lands in the township.

Orders in Council numbered O.C. 1687/53 and 1746a/53 dated December 7, 1953 and December 17, 1953 respectively, provide that application may be made for further extensions pursuant to Section 11 where the nature of the topography or inaccessibility has seriously retarded the examination of a reservation so that it cannot be completed during the term of a reservation and the renewals and extensions obtainable under other provisions of the regulations.

Credit of not in excess of 50 per cent of the approved expenditures incurred in geophysical examinations including drilling on petroleum and natural gas reservations may apply to the rental for one year of any lease or leases acquired out of the reservation and during the fiscal year under review rentals due the Province amounting to \$8,343,150.13 were satisfied from such expenditures.

Natural Gas Licenses.—Fourteen natural gas licenses covering an area of 532,386 acres were issued during the fiscal year and at the close of the year 26 licenses were active containing an area of 1,144,146 acres. The revenue from fees was \$3,500.00 and from rentals and extension charges \$66,665.40.

Crown Reserve Natural Gas Licenses.—Seven Crown reserve natural gas licenses covering an area of 89,832 acres were issued during the fiscal year. At the close of the year twelve licenses were active. The revenue from fees was \$1,750.00 and from rentals and extension charges \$16,714.15.

Natural Gas Leases.—The granting of natural gas leases commenced during the fiscal year and a total of thirty-five leases were issued covering 287,868 acres. Twenty-eight of the leases were granted following the termination of natural gas licenses or Crown reserve natural gas licenses and permit the recovery of natural gas from one or more zones specified in the lease. Three leases were issued permitting the recovery of natural gas from the Viking Zone being considered essential in the operation of a natural gas utility and the remaining four leases also authorizing the recovery of natural gas from the Viking Zone, were issued on lands comprising the balances of spacing units to permit natural gas wells that are capable of commercial production to be operated at full production allowables.

The annual rental of a natural gas lease is thirty-three and one-third cents an acre and while an adequate market or a market in which the lessee may participate is not available, the annual rental is reduced to ten cents an acre.

A credit may be granted for expenditures incurred in drilling on a natural gas license to satisfy the rental for the first year of any lease or leases acquired out of the license and during the fiscal year rentals amounting to \$33,106.30 were satisfied from such expenditures.

COAL

In the fiscal year, 47 leases were issued containing 18,632 acres, being made up of new and renewal and second renewal leases. There are now 573 active leases comprising 153,660 acres. There were eight road allowance coal mining leases issued and there are now 127 active. The revenue received from fees was \$415.00 and from lease rentals \$148,338.11.

Crown royalties collected during the fiscal year were \$286,569.25 and the following tonnage of coal, subject to royalty was mined:

	Tons
Coal Leases	3,039,216
Coal Lands and Mineral Sales	785,970
TOTAL	3,825,186

Order in Council numbered O.C. 1030/53 dated July 15, 1953, provided that the portion of royalties paid to the Province subsequent to April 1st, 1948, shall be remitted as follows:

- (1) the portion of the royalties collected in excess of 7 cents per ton on any coal mined or excavated from any land held in fee simple;
- (2) the portion of the royalties collected in excess of 5 cents per ton on any coal mined or excavated from any land, held under lease from the Crown in the right of the Dominion, and under first renewals of Dominion leases that contained a renewal provision, excepting such leases or renewals where upon an assignment the assignee has accepted a lease issued by the Province subject to the statutory provisions and regulations of the Province.

Refunds totalling \$778,802.84 were made pursuant to this Order in Council.

QUARRYING

Eight quarrying leases comprising a total of 1,027 acres were issued during the fiscal year under review, four of which were for the removal of limestone, one for clay and three for bentonite.

Quarrying leases numbered 17 and 18 were transferred to the Department of Mines and Minerals from the Department of Lands and Forests because of the production of shale from the leases.

Extraction of 830,000 tons of limestone and shale from Crown leases was reported and at the close of the fiscal year 26 quarrying leases containing an area of 2,573 acres were active.

MISCELLANEOUS LEASES

A special mineral lease was issued to Imperial Oil Limited, covering 92 acres in the north west quarter of section 36, township 23, range 1, west of the 5th meridian, at an annual rental of \$450.00. The area comprised in the lease forms a portion of the company's refinery site at Calgary.

BITUMINOUS SANDS

Bituminous sands prospecting permit No. 1 was cancelled and the permittee was issued permit No. 15 for the same area as the cancelled permit in order that the terms of the permit would be comparable to the other bituminous sands prospecting permits.

One other permit was cancelled, and the remaining twelve were renewed, leaving thirteen permits active at the end of the year.

The lease in the Mildred-Ruth Lake area is still in force.

QUARTZ

One thousand four hundred and thirty new claims were recorded during the year while only 321 were issued the previous year. Most of these claims were concentrated in the Leland Lake area in the extreme north-east corner of the Province. The search for uranium is chiefly responsible for the greatly increased number of quartz claims recorded. Ninety-one existing claims were continued for a further year.

PLACER

Fifteen placer claims were recorded and three were renewed for another year. No recovery of gold was reported during the year.

SODIUM CHLORIDE (Common Salt)

During this fiscal year only the plant near Lindbergh operated and the reported extraction was 26,420 tons, an increase of 2,014 tons over the previous year.

SULPHUR

The sulphur prospecting permit issue to Bradley Oil Corporation Ltd. was cancelled during this year.

The sulphur plants at Jumping Pound and Turner Valley produced 18,298 short tons during the first full year of production.

SPECIAL PERMITS

The permit for the collection of bitumen issuing from an old well in the Peace River district was again renewed. Collection of 117 gallons was reported during the year under review.

IRON PROSPECTING PERMITS

During the period under review the first iron prospecting permit was issued by the Department. The permit covers 99,840 acres in the Hines Creek area. The term of the permit is for one year renewable for two further periods of six months each upon payment of rental at the rate of five cents per acre for each renewal providing the examination is continuing to the satisfaction of the Minister.

DRILLING STATISTICS

The drilling and production of petroleum and natural gas wells in the Province are administered by The Petroleum and Natural Gas Conservation Board, 514 Eleventh Avenue West, Calgary, Alberta, and particulars as to drilling activity, production and statistical data are included in weekly, monthly and annual reports issued by the Board.

STAFF

The staff of the Mineral Rights Division numbered 45 employees at the close of the fiscal year and are to be commended for the volume and quality of the work accomplished by the division.

Mineral Tax Division

Report of the Chief Assessor

E. F. GILKER

The continued activity in the development of petroleum and natural gas resources in Alberta resulted in ten new producing areas being brought under assessment during the calendar year of 1953. These new producing areas with principal mineral involved and the assessed value of 1953 follow:

Producing Area	Parcels Assessed	Principal Mineral	Assessed Value
Baxter Lake	1	Petroleum	\$ 172,193.34
Black Butte	1	Natural Gas	82,285.68
Bonnie Glen	10	Petroleum	7,207,513.32
Chamberlain	6	Petroleum	93,421.77
Chauvin	3	Petroleum	1,889.20
Legal	1	Petroleum	320.00
Malmo	7	Petroleum	588,307.17
Morinville	1	Natural Gas	54,307.76
North Big Valley	1	Petroleum	561,262.88
South Camrose	8	Petroleum	225,741.85

Other producing areas of the Province designated by Ministerial Order and assessed in previous years were again included in the assessment roll for the year 1953 and these are also enumerated:

Producing Area	Parcels Assessed	Principal Mineral	Assessed Value
Acheson	21	Petroleum	\$ 4,215,560.75
Armena-Camrose	47	Petroleum	6,936,386.85
Armisie	7	Petroleum	419,368.45
Bashaw	2	Petroleum	172,193.34
Big Valley	5	Petroleum	904,916.47
Bon Accord	4	Petroleum	342,199.31
Campbell	8	Petroleum	56,855.67
Conrad	1	Petroleum	11,372.53
Duhamel	3	Petroleum	300,970.47
Ellerslie	8	Petroleum	186,925.23
Excelsior	5	Petroleum	1,108,122.59
Fenn	5	Petroleum	2,095,246.43
Glen Park	1	Petroleum	61,233.86
Joseph Lake	10	Petroleum	1,700,080.98
Jumping Pound	57	Natural Gas	422,185.17
Leduc-Woodbend	300	Petroleum	33,374,377.98
Lloydminster	29	Petroleum	1,064,510.61
Medicine Hat-Redcliff	109	Natural Gas	367,213.41
Namao	5	Petroleum	231,189.54
New Norway	1	Petroleum	485,895.08
Redwater	17	Petroleum	11,031,266.98
Stettler	10	Petroleum	735,611.40
Taber	1	Petroleum	40.00
Turner Valley	64	Pet. and Nat. Gas	7,783,096.20
Viking Kinsella	388	Natural Gas	1,608,087.32
Whitemud	1	Petroleum	31,033.96
Wizard Lake	7	Petroleum	4,505,150.91
Cascade	20	Coal	76,701.68
Crowsnest-Pincher	277	Coal	463,576.97
Lethbridge	116	Coal	71,656.46

In addition to the foregoing designated by the Minister as producing areas; provision is also made for the assessment of any

quarter section, river lot or other parcel on which a mine or well is located or that is situate within five-eighths of a mile of a mine or well. The assessment of these areas involved 496 parcels and the principal minerals assessed were petroleum, natural gas and coal with an assessed value of \$2,361,533.01.

The parcels assessed are the number of items appearing on the assessment roll and each parcel relates to the area contained in a certificate of title. In determining the assessed value of a parcel each spacing unit on which a well has been brought into production is calculated separately; consequently, several calculations must be made in arriving at the assessment for petroleum in a parcel containing minerals in a section of land.

The acreage tax of one and one-half cents an acre was continued in 1953 and the mill rate on the total assessed value of \$92,002,478.51 was again set at eight mills. This is an assessment increase of \$21,840,815.19 over the total of \$70,161,663.32 for 1952.

The total revenue from the taxation of minerals from the enactment of the statute in 1941 until March 31, 1949 collected by the Department of Lands and Mines was \$1,921,180.47 and revenue collected by the Department of Mines and Minerals from April 1, 1949 is shown in the following tabulation:

Year	Mill Rate	Producing	Per Acre	Acreage Tax	Fees	Total
1949-1950	8	\$452,838.16	1½c	\$297,883.10	\$ 286.50	\$ 751,007.76
1950-1951	8	526,029.61	1½c	307,185.71	511.00	833,092.23
1951-1952	8	444,293.91	1½c	323,185.71	2,320.10	769,799.72
1952-1953	8	572,671.45	1½c	310,285.08	3,204.00	886,160.53
1953-1954	8	717,352.55	1½c	283,853.18	1,055.50	1,002,261.23
						<hr/> \$4,242,321.47

The arrears of acreage tax have been greatly reduced in recent years and as a consequence collections consist principally of current taxes which accounts for the reduction in this form of revenue.

For a fee of fifty cents anyone may obtain a mineral tax certificate on a parcel showing the tax, if any, in arrears, and during the fiscal year 2,111 certificates were issued.

GEOPHYSICAL EXPLORATION

Licenses are issued to applicants who desire to undertake geophysical or subsurface geological exploration. A total of 240 licenses were issued from April 1st, 1953 to March 31st, 1954. These licenses expire on March 31st following the date of issue and may be renewed.

Before an operator can undertake geophysical exploration either by seismic, gravimetric, magnetic, electrical, geochemical, test drilling or any other method which may be used for the purpose of investigating the subsurface a permit to operate geophysical equipment must be obtained. A fee of twenty-five dollars is required for a geophysical license or permit. During the fiscal year ending the 31st of March 1954, 18 such permits were issued and 79 renewed.

The number of the permit must be legibly marked on all pieces of automotive equipment. The permit is for ready identification of any crew observed to be interfering with the rights of property owners

or occupants. A metal tag on which the permit number has been imprinted must be left at each hole drilled or shot which serves to identify the crew responsible for such hole. Provision is also made in the regulations for the minimum distances that shot holes and core holes must be located from buildings, water wells, gateways, driveways and other improvements.

The licensee must file with the Department every month a plan in triplicate showing the location of all trails made or constructed, roadways which have been used and the identifying number and location of each shot hole, test hole or core hole made during the preceding month, and these are recorded in this Department and the Department of Lands and Forests.

The holder of a license must supply to The Petroleum and Natural Gas Conservation Board, not later than three months following the termination of the license, a complete copy of every electrolog and every other log or survey taken of each hole logged or surveyed, together with all pertinent data.

In the event of any underground water or gas occurrences being observed in drilling, the licensee must supply to the Director of Mineral Rights, not later than three months following the termination of the license, a report of the water occurrences and a report of the gas occurrences, setting out in each report the location including co-ordinates of each hole, the ground elevation at the hole and the depth to each aquiferous or gas horizon as the case may be.

Where any form of exploration other than the drilling of holes is conducted, the licensee must within three months following the termination of the license supply to the Director of Mineral Rights a map or maps showing the area covered by such exploration.

The Investigators for the Department are called upon to investigate and report on complaints received by the Department from owners or tenants of land where damage seems to have been caused to water wells, crops, fences and other improvements. Upon a complaint being reported to the Department verbally or by correspondence, an investigation is made at the earliest possible date to determine if the damage has been caused by geophysical operations and when necessary endeavour to effect a settlement by the crew responsible. The Department has had cooperation from geophysical operators in dealing with these complaints.

Technical Division

Report of the Superintendent of the Technical Division

H. B. GROVE

The following report summarizes the operations of the Technical Division for the fiscal year ending March 31, 1954.

Draughting, Legal Descriptions and General

Due to the extension of oil and gas drilling and exploration activities to new areas of the Province it was necessary to devote considerable time and effort to the production of new maps of oil and gas fields.

Maps of oil and gas fields and their adjacent areas are published when the area becomes of major importance and are drawn, to a scale of two inches to the mile, on standard size sheets 52"x30" or 26"x15". The maps show the location and status of all wells and the outlines of fields as established by Order of the Petroleum and Natural Gas Conservation Board.

There are, however, fields for which standard size maps have not been drafted and during the year forty-two maps were drawn to a scale of two miles to the inch on transparent township plans so that maps are available showing the locations and status of wells for all producing areas. The fields covered in this respect are:

Alliance, Athabasca, Bashaw, Baxter Lake, Barons, Barrhead, Brooks, Battle, Black Butte, Bon Accord, Bonnyville, Bow Island, Cessford, Chauvin, Cold Lake, Conrad, Del Bonita, Duvernay, Dina, Elk Point, Foremost, Jumping Pound, Lindbergh, Picardville, Pincher Creek, Pouce Coupe, Princess, Rimbey, Rycroft, Samson, Skaro, Smith Coulee, Spring Coulee, St. Paul, Suffield, Sunnynook, Taber, Tilley, Vermilion, Wainwright, Whitelaw, Wildmere.

The following standard size maps of fields and adjacent areas were published during the year:

Acheson Field and Armisie, Campbell, Ellerslie, Namao Fields (Showing recent survey of St. Albert Settlement)

North one-third of Township 51, Townships 52, 53 and 54, and the South one-sixth of Township 55, in the West one-third of Range 24, Ranges 25 and 26, West of the 4th Meridian.

Fort Saskatchewan Field and Chamberlain Field

North two-thirds of Township 52, Townships 53, 54 and 55 and the South one-sixth of Township 56 in the West five-sixths of Range 21, Ranges 22 and 23, West of the 4th Meridian.

Joffre Field and Clive Field

North one-third of Township 37, Townships 38, 39, 40 and the South half of Township 41 in the West two-thirds of Range 24, Range 25 and the East five-sixths of Range 26, West of the 4th Meridian.

Morinville Field and Excelsior, Peavey, Legal, Fairy Dell Fields
North five-sixths of Township 55, Townships 56, 57 and 58 in Ranges 24, 25 and the East one-third of Range 26, West of the 4th Meridian.

Pembina Field

Townships 47, 48, 49 and the South five-sixths of Township 50, Ranges 7, 8 and the East one-third of Range 9, West of the 5th Meridian.

A map of the Province showing the location of oil and gas field area maps published to March 31, 1954, is included in this report.

The accurate drawing of the folder entitled "Alberta Oil Picture 1947-51" was revised by the addition of the statistics for the calendar year 1952.

A total of 2,450 maps were distributed for sale to the public and for departmental use, which is an increase of 720 from the 1,730 maps distributed in the previous year.

The number of subscribers to the weekly service which entitles a subscriber to a sketch of each new reservation issued and each reservation amended, cancelled or converted to lease increased from 48 to 51 and 24,000 copies of sketches were prepared and mailed showing a decrease of approximately 4,000 over last year's total.

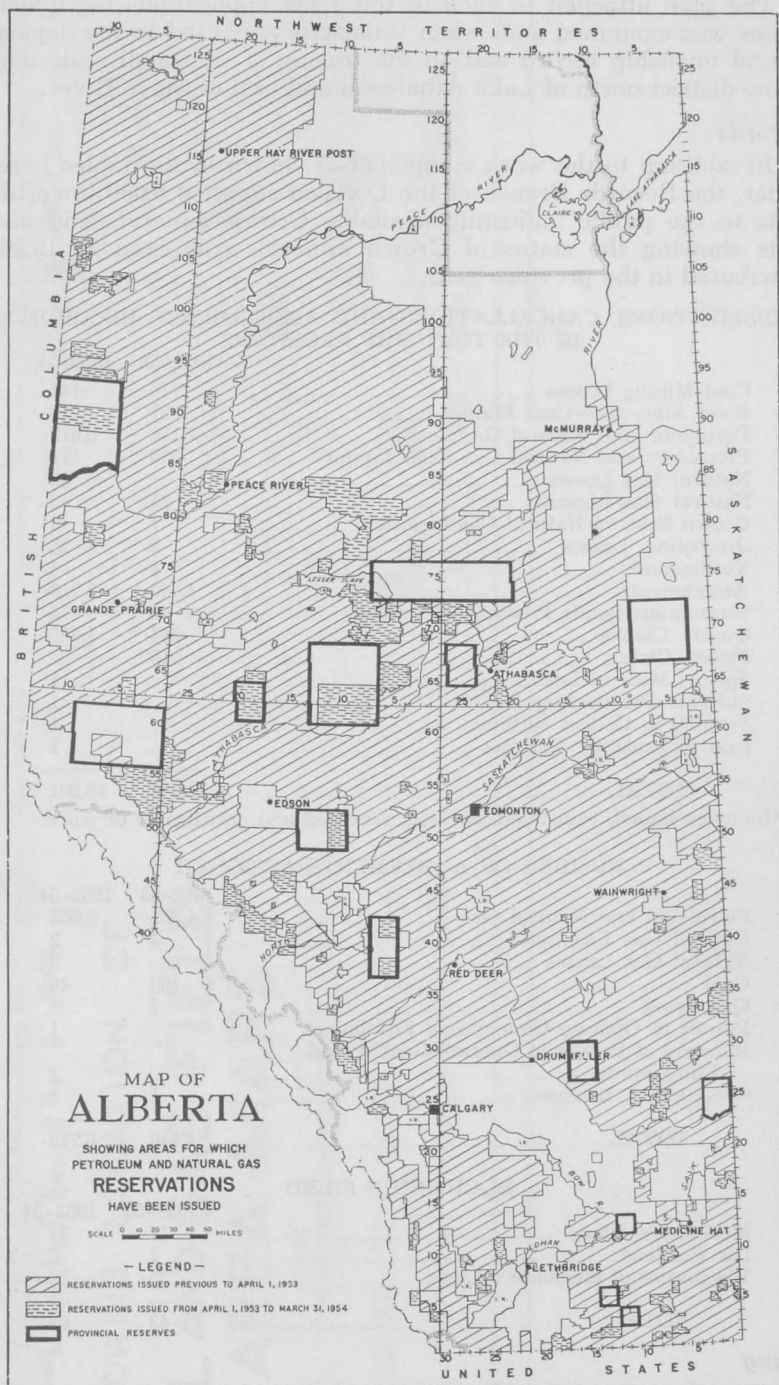
During the year 1,435 applications for licenses to drill wells were recommended to the Department by the Petroleum and Natural Gas Conservation Board, which is a decrease of 260 from the 1,695 applications dealt with in the previous year. The Division, upon receipt of each application, investigates the ownership of the minerals in the spacing unit allotted to the well.

Legal descriptions were prepared for 57 coal mining and road allowance leases, 6,148 petroleum and natural gas leases, 127 petroleum and natural gas reservations, 35 natural gas leases, 15 natural gas licenses, 7 Crown reserve natural gas licenses, 8 quarrying leases, 4 notifications, 1 bituminous sands prospecting permit and 1 special mineral lease as well as descriptions for recommendations to council, making a total of over 6,400 which is an increase of 200 in comparison to the previous year.

In addition to the 24,000 copies of petroleum and natural gas reservation sketches which were reproduced on the multigraph duplicator machine, there were 1,270 masters typed from which 358,800 copies were reproduced, representing an increase of 550 masters and 182,235 copies over the previous year.

The map of Alberta showing the areas covered by all petroleum and natural gas reservations to March 31, 1953, has been revised to indicate the area of reservations issued during the present year and is included in this report.

The photostat and ozalid print requirements of the Department continued, as in past years, to be efficiently supplied by the Technical Division, Department of Lands and Forests.



The plan attached to each of the 1,430 applications for quartz claims was examined and, when satisfactory, plotted in the departmental township record and on the tracing of the small scale map of the district north of Lake Athabasca and east of Slave River.

Records

In addition to the work completed as shown in the tables hereunder, the Records Branch of the Division supplied 6,000 township plots to the public indicating available Crown minerals and also plots showing the status of Crown minerals compared to 13,362 distributed in the previous year.

*DISPOSITIONS, CANCELLATIONS AND ASSIGNMENTS RECORDED IN THE TOWNSHIP REGISTERS

	1952-53	1953-54
Coal Mining Leases	76	141
Road Allowance Coal Mining Leases	37	18
Petroleum and Natural Gas Leases	7,138	9,612
Petroleum and Natural Gas Reservations	530	474
Natural Gas Leases		35
Natural Gas Licenses	24	43
Crown Reserve Natural Gas Licenses	7	9
Quarrying Leases	8	15
Notifications	8	4
Assignments	4,440	6,719
Bituminous Sands Prospecting Permits	15	15
Quartz Claims	344	1,685
Placer Claims	15	27
Special Mineral Leases		1
Sulphur Prospecting Permit		1
Permits to Collect Bitumen		1
Iron Prospecting Permits		1
TOTAL	12,642	18,801

*Includes issued, reinstated, divided, renewed and certificates of work.

NUMBER OF AGREEMENTS ASSIGNED

	1952-53	1953-54
Petroleum and Natural Gas	4,321	6,663
Natural Gas Licenses	4	2
Natural Gas Leases		2
Coal	109	48
Quarrying	5	
Permit to Operate Geophysical Equipment		1
Renewal of Permit to Operate Geophysical Equipment		2
Geophysical Licenses	1	1
TOTAL	4,440	6,719

DOCUMENTS FILED

	1952-53	1953-54
Mechanic's Liens	17	34
Lis Pendens	1	2
Discharges of Mechanic's Liens	25	28
TOTAL	43	64

Filing

A comparison of the filing activity during the year under review and the previous year is shown on the following schedule of files cancelled and new files opened.

FILES CANCELLED AND NEW FILES OPENED

	Opened 1952-53	Cancelled 1952-53	Opened 1953-54	Cancelled 1953-54
Leases, Reservations, Permits, etc.	7,560	1,854	6,725	4,124
Company	174	.....	179	.....
Coal Royalty	37	.....	24	.....
General	141	.....	166	.....
Alienated	69	.....	20	.....
School Lands	1	.....	.....	.....
Well Deposits	97	100	43	.....
Unit .....	.....	.....	1	.....
Structure Tests	9	.....	10	.....
Water Wells	15	.....	7	.....
Petroleum and Natural Gas Royalty	491	.....	501	12
Unearned Increment Tax	186	1	40	37
Battery	67	.....	41	27
Group	11	.....	5	1
Mining Land Oil Purchase	5	.....	3	3
Geophysical Licenses	281	.....	134	1
Geophysical License Deposits	24	3	13	.....
Permits to Operate Geophysical Equipment ..	144	6	17	31
TOTAL	9,312	1,964	7,929	4,236

Notifications For Issue Of Certificate Of Title

Four notifications were issued all of which completed exchanges of minerals with freehold owners. Three of the notifications granted all mines and minerals except gold and silver and one notification granted all mines and minerals except gold, silver and coal.

During the five years of the operation of the Department, forty-five notifications for minerals have been issued.

Revested Minerals

During the year the Minister of Mines and Minerals received title to minerals in sixty-three parcels, six being through exchange of minerals, three through voluntary transfers, forty-six through non-payment of mineral tax and eight were received from Canada pursuant to P.C. 1040, dated July 2, 1954.

The following schedule indicates the acreage of the major minerals and the total acreage contained in titles revested to the Crown in the right of the Province.

SCHEDULE OF REVESTED MINERALS

April 1, 1953 to March 31, 1954

	Petroleum Acres	Natural Gas Acres	Coal Acres	Other Minerals Acres	Acreage con- tained in Titles
Voluntary Transfer as on March 31, 1953	23,368.31	78,488.65	709,262.35	90,580.05	786,556.54
From April 1, 1953 to March 31, 1954	Nil	627.6	Nil	1,107.6	1,107.6
	<u>23,368.31</u>	<u>79,116.25</u>	<u>709,262.35</u>	<u>91,687.65</u>	<u>787,664.14</u>
Non-Payment of Mineral Tax as on March 31, 1953	90,899.965	304,076.725	45,543.835	326,956.575	490,661.865
From April 1, 1953 to March 31, 1954	349.98	7,996.08	163.98	8,639.08	8,639.08
	<u>91,249.945</u>	<u>312,072.805</u>	<u>45,707.815</u>	<u>335,595.655</u>	<u>499,300.945</u>
Revested other than Vo- luntary Transfer and Non-Payment of Mineral Tax as March 31, 1953	200,612.51	213,487.79	127,158.72	214,942.96	63,246.27
From April 1, 1953 to March 31, 1954	5,092.20	4,941.26	5,081.40	4,941.26	4,941.26
	<u>205,704.71</u>	<u>218,429.05</u>	<u>132,240.12</u>	<u>219,884.22</u>	<u>68,187.53</u>
Total as on March 31, 1953 ..	314,880.785	596,053.165	881,964.905	632,479.585	1,340,464.675
Increase	5,442.18	13,564.94	5,245.38	14,687.94	14,687.94
Total as on March 31, 1954 ..	<u>320,322.965</u>	<u>609,618.105</u>	<u>887,210.285</u>	<u>647,167.525</u>	<u>1,355,152.615</u>

Accounting Division

Report of the Administrative Accountant and Personnel Officer

W. E. SHILLABEER

A surplus of \$97,422,298.01 on Income Account was shown for the fiscal year ending March 31st, 1954.

Net Revenue on Income Account amounted to \$98,250,492.75.

Gross Receipts from all sources amounted to \$105,540,903.85.

Expenditure on Income Account for the year amounted to \$828,194.74. Particulars of expenditure may be found in Statement "C".

As at March 31st, 1954 there were 28,619 Accounts Receivable as compared with 26,120 as at March 31st, 1953. The number of active accounts as at March 31st, 1954, is made up as follows:

	No. of Accounts
Petroleum and Natural Gas Leases, Rental	23,572
Petroleum and Natural Gas Leases, Royalty	940
Petroleum and Natural Gas Reservations	415
Natural Gas Leases	26
Natural Gas Licenses	40
Coal Leases, Rental	666
Coal Leases, Royalty	183
Registration of Assignment Tax	351
Mineral Tax (Producing Area)	2,346
Mining Leases (Miscellaneous)	80
	<hr/>
	28,619

There were 4,552 accounts cancelled, closed, transferred or paid in full and 7,051 accounts opened.

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- H.—Statement of School Minerals Revenue by Fiscal Years received by the Province for the period April 1st, 1949 to March 31st, 1954.

STATEMENT A

STATEMENT OF RECEIPTS FROM ALL SOURCES

From April 1st, 1953 to March 31st, 1954

	Gross Receipts	Refunds	Net Receipts
Income Account	\$ 98,296,808.31	\$ 46,315.56	\$98,250,492.75
Capital Account	605.85	.....	605.85
Reimbursement of Previous Year's Expenditure	236.56	.....	236.56
Unapplied Receipts Carried Forward (Subject to Refund) .....	.....	.....	.....
Suspense	7,243,253.13	6,779,526.27	463,726.86
	<u>\$105,540,903.85</u>	<u>\$6,825,841.83</u>	<u>\$98,715,062.02</u>

STATEMENT B

STATEMENT OF RECEIPTS—INCOME ACCOUNT

From April 1st, 1953 to March 31st, 1954

INCOME ACCOUNT:

	Gross Receipts	Refunds	Net Revenue
PROVINCIAL MINERALS:			
Coal Rentals, Fees, etc.	\$ 143,288.66	\$ 1,010.00	\$ 142,278.66
Coal Royalties	271,662.26	2,967.98	268,694.28
Coal Mines Act Sundry Revenue	3,910.20	8.00	3,092.20
Petroleum and Natural Gas Rentals, Fees, etc.	23,129,067.81	32,418.69	23,096,649.12
Petroleum and Natural Gas Royalties	17,048,688.02	.....	17,048,688.02
Crown Reserve Sales	49,590,018.41	8.81	49,590,009.60
Mining Miscellaneous	146,802.12	3,403.83	143,398.29
SCHOOL MINERALS:			
Coal Rentals, Fees, etc.	6,474.45	.....	6,474.45
Coal Royalties	17,874.97	.....	17,874.97
Petroleum and Natural Gas Rentals, Fees, etc.	1,505,182.38	3,838.00	1,501,344.38
Petroleum and Natural Gas Royalties	1,516,438.34	.....	1,516,438.34
Crown Reserve Sales	3,646,107.46	.....	3,646,107.46
Mining Miscellaneous	955.10	.....	955.10
MINERAL TAXATION ACT:			
Mineral Tax	1,003,085.70	824.47	1,002,261.23
REGISTRATION OF ASSIGNMENT TAX	174,566.11	43.28	174,522.83
MISCELLANEOUS (Casual)	92,206.32	1,792.50	90,413.82
REIMBURSEMENT OF SALARY AND EXPENSES	480.00	.....	480.00
TOTAL INCOME ACCOUNT (Carried to Statement A)	<u>\$98,296,808.31</u>	<u>\$46,315.56</u>	<u>\$98,250,492.75</u>

EXPENDITURE CLASSIFIED BY APPROPRIATIONS AND CHARACTER FOR THE YEAR ENDED MARCH 31st, 1954

INCOME ACCOUNT

Service	2002 Office Deputy Minister's	2003 Accounts Division	2005 Geological Division	2006 Mines Division	2007 Mineral Rights Division	2008 Mineral Tax Division	2009 Petroleum & Nat. Gas Cons. Board	2010 Technical Division	2011 Postage	2012 Printing, Stationery and Office Supplies	2013 Administration Gas Resources Preservation Act	2014 Right of Entry Arbitration Board	2015 Supervisory and Safety Training Programme	Total
Advertising	\$	\$	\$	\$	\$ 6,809.68	\$ 5,676.68	\$	\$	\$	\$	\$ 27.92	\$ 692.74	\$	\$ 6,837.60
Automobiles	501.32	86.51		61.06	48.51	60.71		836.86				23.23		6,369.42
Books and Binding	881.76	699.44	677.59	375.00	364.93	484.82		855.37				180.89		1,618.20
Equipment				1,075.11										4,249.80
Examinations														1,075.11
Fees and Commissions														
Freight, Express and Cartage		211.86	3.49	649.04										864.39
Grants														40,459.75
Legal Fees and Expenses											5,990.00		10,000.00	5,990.00
Miscellaneous Supplies and Expenses	109.38	205.93	5.90	65.20	341.06	136.57	255,909.97	4,569.01			678.10	96.06		262,117.18
Newspapers and Periodicals	187.50	3.00		26.43	30.38	6.00						34.50		287.81
Postage				127.93					6,587.07			367.57		7,082.57
Printing and Stationery Rates, Rentals and Insurance				3,241.29						23,039.12		859.06		27,139.47
Repairs and Replacements	92.27	404.32		181.10	673.30	1,839.16		285.92				81.34		608.09
Salaries	26,963.01	57,650.39	1,779.63	52,986.12	112,297.04	57,957.92		85,453.41				168.36		3,594.43
Special Services	12.60			15.15	5.00							32,158.24		427,245.76
Telegrams and Telephones	576.17	57.45	262.52	295.00	1,696.62	1,319.74	124.70	223.95				191.51		1,681.15
Travelling Expenses	1,638.34	96.25	262.52	8,471.80	1,186.88	10,768.67		411.32			1,129.80	2,523.29		4,485.14
TOTAL:	\$30,962.35	\$59,415.15	\$ 2,729.13	\$67,650.09	\$123,453.40	\$109,156.91	\$256,034.67	\$92,315.84	\$6,587.07	\$23,039.12	\$9,474.22	\$37,376.79	\$10,000.00	\$828,194.74
Income Account														

CAPITAL ACCOUNT

	2080	
Abandonment of Mining Properties	TOTAL	
Contract Labor	\$27,069.59	
TOTAL: Capital Account	\$27,069.59	

STATEMENT D

STATEMENT OF NET RECEIPTS BY DIVISIONS

For Fiscal Year Ending March 31st, 1954

INCOME ACCOUNT:

Mineral Rights Division	\$97,153,435.50
Mineral Taxation Division	1,002,261.23
Mines Division	3,902.20
Miscellaneous (Administration Sundry Revenue, Reimbursements, etc.) ..	90,893.82
CAPITAL ACCOUNT	605.85
TRANSFERRED TO OTHER DEPARTMENTS	236.56
UNAPPLIED RECEIPTS CARRIED FORWARD:	
Suspense	463,726.86
	<u>\$98,715,062.02</u>

STATEMENT E

STATEMENT OF RECEIPTS—SCHOOL MINERALS

From April 1st, 1953 to March 31st, 1954

INCOME ACCOUNT:

	Receipts	Refunds	Net Revenue
Coal Rentals, Fees, etc	\$ 6,474.45	\$	\$ 6,474.45
Coal Royalties	17,874.97	.....	17,874.97
Petroleum and Natural Gas Rentals, Fees, etc.	1,505,182.38	3,838.00	1,501,344.38
Petroleum and Natural Gas Royalties	1,516,438.34	.....	1,516,438.34
Crown Reserve Sales	3,646,107.46	.....	3,646,107.46
Mining Miscellaneous	955.10	.....	955.10
	<u>\$6,693,032.70</u>	<u>\$3,838.00</u>	<u>\$6,689,194.70</u>

STATEMENT F

STATEMENT OF RECEIPTS AND EXPENDITURE

For Fiscal Year Ending March 31st, 1954

Gross Receipts	Refunds	Net Receipts	Net Revenue on Income Account	Total Expenditures from Appropriations	Surplus on Income Acct.
\$105,540,903.85	\$6,825,841.83	\$98,715,062.02	\$98,250,492.75	\$828,194.74	\$97,422,298.01

PERSONNEL

The number of employees in the Department increased from 158 as at March 31st, 1953 to 168 as at March 31st, 1954, an increase of 10.

During the same period, 47 employees left the Department. Of these, 16 left to accept employment outside the government service, 4 transferred to other Departments and the remainder left for various other reasons.

STATEMENT OF PROVINCIAL MINERALS REVENUE BY FISCAL YEARS
RECEIVED BY THE PROVINCE FOR THE PERIOD APRIL 1st, 1949
TO MARCH 31st, 1954

	1949-50	1950-51	1951-52	1952-53	1953-54	Total
Coal						
Fees and Rentals	\$ 185,412.49	\$ 174,035.27	\$ 211,582.89	\$ 170,286.62	\$ 142,278.66	\$ 883,595.93
Royalties	600,493.96	577,667.84	394,441.24	354,123.99	268,694.28	2,195,421.31
Sundry Revenue	6,183.50	5,335.30	5,209.45	4,526.05	3,902.20	25,156.50
Petroleum and Natural Gas						
Fees and Rentals	5,741,111.95	9,034,896.06	14,134,672.25	18,236,470.24	23,096,649.12	70,243,799.62
Royalties	3,368,918.86	4,760,569.46	10,062,772.17	12,353,945.64	17,048,688.02	47,594,894.15
Crown Reserve Sales	23,180,998.77	28,008,052.42	12,517,931.33	19,659,005.63	49,590,009.60	132,955,997.75
Salt						
Fees and Rentals	564.00	3,129.00	1,005.60	1,005.60	1,005.60	6,709.80
Royalties	2,024.92	9,230.96	4,895.32	6,806.71	7,063.37	30,021.28
Quarrying						
Fees and Rentals	1,019.31	1,176.72	291.28	227.23	325.01	3,039.55
Royalties	29,939.08	36,486.29	27,908.36	29,309.75	38,798.28	162,441.76
Sand and Gravel						
Fees and Royalties	7,665.35	10,287.45	.....	.....	.....	17,952.80
Quartz						
Fees and Royalties	377.56	630.00	853.47	3,826.17	15,750.92	21,438.12
Placer and Bar Diggings						
Fees and Royalties .....	.....	325.08	42.79	30.00	30.00	427.87
Bituminous Sands						
Fees, Rentals and Royalties	13,350.28	7,173.20	7,173.20	52,480.95	62,994.50	143,172.13
Miscellaneous Leases						
Fees, Rentals and Royalties	24,766.31	43,253.19	15,949.78	19,453.24	17,430.61	120,853.13
Mineral Tax						
Non-Producing Area Tax	297,883.10	307,062.62	323,185.71	310,285.08	283,853.18	1,522,269.69
Producing Area Tax	452,836.16	526,029.61	444,293.91	572,671.45	717,352.55	2,713,185.68
Certificate Fees	286.50	511.00	2,320.10	3,204.00	1,055.50	7,377.10
Registration of Assignment Tax						
.....	185,833.42	73,245.56	283,749.67	204,218.88	174,522.83	921,570.36
Administration Sundry Revenue						
.....	21,915.60	34,734.13	61,946.42	83,735.45	90,413.82	292,745.42
TOTAL	\$34,121,583.12	\$43,613,831.16	\$38,500,224.94	\$52,065,612.68	\$91,560,818.05	\$259,862,069.95

STATEMENT OF SCHOOL MINERALS REVENUE BY FISCAL YEARS
RECEIVED BY THE PROVINCE FOR THE PERIOD APRIL 1st, 1949
TO MARCH 31st, 1954

STATEMENT H

	1949-50	1950-51	1951-52	1952-53	1953-54	Total
Coal						
Fees and Rentals	\$ 6,313.28	\$ 6,965.91	\$ 3,761.05	\$ 5,888.62	\$ 6,474.45	\$ 29,403.31
Royalties	51,074.51	45,643.83	42,969.61	25,388.52	17,874.97	182,931.44
Petroleum and Natural Gas						
Fees and Rentals	514,065.59	744,745.23	1,245,877.55	1,445,874.57	1,501,344.38	5,451,907.32
Royalties	242,199.47	429,423.19	975,317.20	1,157,006.02	1,516,438.34	4,320,384.22
Crown Reserve Sales	50,449.43	1,072,579.97	693,357.64	3,868,438.03	3,646,107.46	9,330,932.53
Sand and Gravel						
Fees and Royalties .....	.....	.....	2,752.10	.....	.....	2,752.10
Bituminous Sands						
Fees, Rentals and Royalties	1,845.00	565.00	565.00	892.05	932.10	4,799.15
Miscellaneous Leases						
Fees, Rentals and Royalties .....	.....	3,896.01	1,016.05	1,008.00	23.00	5,943.06
TOTAL	\$ 865,947.28	\$ 2,303,819.14	\$ 2,965,616.20	\$ 6,504,475.81	\$ 6,689,194.70	\$19,329,053.13

Right of Entry Arbitration Board

N. G. MELDRUM, *Chairman*

Continued activity in the development of the natural resources of Alberta, especially in exploration for petroleum and natural gas, is reflected in the work of the Board for the year 1953-54. The discovery of new oil and gas fields, particularly in the Pembina area, has resulted in more applications for right of entry than in any previous year since the establishment of the Board in 1947. To meet the increasing volume of work more staff has been added until the personnel now totals twelve as compared with three prior to 1949. One of the recent additions is an Inspector who is used chiefly to visit land owners when applications for right of entry are first made, in order that farmers may become familiar at the commencement of proceedings with the operations of the Board. This procedure is working out very satisfactorily from everyone's viewpoint and should be more and more helpful in the future.

During the calendar year, 1953, the Board received 609 applications, an increase of 121 over 1952, the previous high. It disposed of 687 applications as compared with 388 in 1952. This large number of disposals was made possible only by the creation of a three-man Board early in 1953 as well as increased staff. At the end of 1953 there were 403 applications outstanding, most of which were received too late in the year to permit inspection of the premises involved. There are now no old outstandings with the exception of a very few which have been delayed through unusual circumstances over which the Board has no control. Of the 609 applications received in 1953 by far the greater number had to do with gas and oil and there were only fifteen others, most of which had to do with mining for coal.

Below is given a summary of applications received, disposed of, and outstanding, as well as the number of orders issued in each year from 1947 to 1953 inclusive:

Year	Applications Received	Applications Disposed of	Applications Outstanding	No. of Orders Issued
1947	84	16	68	50
1948	114	107	75	155
1949	236	205	106	332
1950	450	266	290	585
1951	429	338	381	656
1952	488	388	481	775
1953	609	687	403	1,116

In 1953 the Board's awards to surface owners totalled \$199,544.18 for the first year of occupation and \$60,785.32 for each year thereafter. All awards made since the Board's inception in 1947 amount to \$671,996.09 for the first year and \$215,817.80 for each year thereafter.

A summary shows the following averages for petroleum and natural gas well locations on privately owned lands:

	Area Taken (Acres)	Compensation for first year	Compensation for each sub- sequent year
Leduc-Woodbend	5.49	\$1,385.65	\$437.22
Redwater	3.95	1,131.88	399.87
Joseph Lake	3.82	915.68	305.90
Wizard Lake and Bonnie Glen	3.82	1,371.30	415.40
Armena-Camrose	3.92	1,123.23	385.70
Malmo	4.11	1,002.25	363.76
Stettler and Caprona- Big Valley	5.06	1,199.31	400.95
Drumheller	4.03	1,322.34	439.21
Lloydminster	2.36	587.91	244.87

There have not been sufficient awards in other areas to show a fair average.

BOARD OF ARBITRATION

N. G. MELDRUM, Chairman.

Date Due

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